

REMARKS

This Amendment is in response to the final Office Action mailed on December 10, 2010. Claim 1 is amended and is supported, for example, in the specification at page 25, lines 10-16 and in Figs. 7, 10 and 11. Claim 12 is new and is supported, for example, at page 25, line 10-page 27, line 20 and in Figs. 7, 10 and 11. No new matter is added. Claims 1, 5, 7-9, 11 and 12 are pending.

Examiner Interview:

Applicants would like to thank Examiner Michael S. Osinski for conducting a telephone interview with Applicants' representative, Mr. Amol Kavathekar on February 15, 2011. In the interview, the features of claim 1 were discussed with respect to Nonaka (US Patent No. 7,162,151) and Freeman (US Publication No. 2005/0280714). No agreement was reached.

§103 Rejections:

Claims 1 and 11 are rejected as being unpatentable over Nonaka (US Patent No. 7,162,151) in view of Freeman (US Publication No. 2005/0280714) and further in view of Ono (US Patent No. 7,456,874). Applicants traverse this rejection.

Claim 1 is directed to a multi-eye imaging apparatus that requires, among other features, that the shifter moves at least one part of the first imaging system in the fixed amount independent of the shake amount. Claim 1 also requires an image combining unit configured to combine the selected combination of image information, where the selected combination of image information is based on the fixed amount for the shifter, the shake amount obtained by the shake amount obtaining unit, and the parallax amount obtained by the parallax obtaining unit.

The combination of Nonaka, Freeman and Ono does not teach or suggest these features. Particularly, the combination of Nonaka, Freeman and Ono does not teach or suggest a shifter that moves at least one part of the first imaging system in the fixed amount independent of the shake amount.

The rejection interprets the actuator 21 of Nonaka as the shifter of claim 1. However, column 4, lines 47-59 of Nonaka teaches that the camera shake detecting

section 19 controls the actuator 21 and moves the main image pickup device 12 to reduce the influence of the camera shake. That is, Nonaka teaches that the main image pickup device 12 is moved in accordance with the generated camera shake and not independent of the camera shake as required for the shifter of claim 1.

Freeman does not overcome these deficiencies of Nonaka. In contrast, Freeman teaches control signals or sub-pixel offset signals provided to the actuator 122 from system 124 include compensation information from the vibration detector 128 (see paragraph [0034] of Freeman). Also, even if the sub-pixel offset shift taught in paragraph [0031] of Freeman is applied to the actuator 21 of Nonaka, the shift amount of the actuator 21 would still include compensation information from the camera shake detecting section 19 (see column 4, lines 47-59 of Nonaka).

Ono is provided for teaching a parallax amount obtaining unit that obtains a magnitude of parallax from an image stored within an image memory and does not overcome the deficiencies of Nonaka and Freeman.

Further, the combination of Nonaka, Freeman and Ono does not teach or suggest an image combining unit configured to combine the selected combination of image information, where the selected combination of image information is based on the fixed amount for the shifter, the shake amount obtained by the shake amount obtaining unit, and the parallax amount obtained by the parallax obtaining unit.

The rejection relies on Freeman for teaching an image combining unit configured to combine the selected combination of image information. However, one skilled in the art would not look to modify Nonaka with the teachings of Freeman, as combining the teachings of Freeman would prevent Nonaka from operating as intended.

Nonaka teaches allowing a user to confirm the effect of the camera shake correction by displaying an image which has not undergone camera shake correction and an image which has undergone camera shake correction in parallel on the monitor 24 (see column 3, lines 4-15, column 6, lines 26-41 and Figs. 1 and 5 of Nonaka). The image which has not undergone camera shake correction is formed by synthesizing the image signals of the images shown in Fig. 2 (i.e., the images having differences in image position due to camera shake) without alignment.

Freeman teaches producing an enhanced resolution image by overlapping the imaging signals of the offset image after alignment with the reference image so that a resolution of combined image information is higher than that of each of the plurality of frames of image information (see paragraph [0050] of Freeman). However, by modifying Nonaka to combine imaging information so that a resolution of a combined image is higher than that of each of the plurality of frames of image information, a user is no longer able to confirm the effect of the camera shake correction as intended by Nonaka. Thus, it would not be obvious to one skilled in the art to modify Nonaka with the teachings of Freeman to obtain the features of claim 1.

Ono is provided for teaching a parallax amount obtaining unit that obtains a magnitude of parallax from an image stored within an image memory and does not overcome the deficiencies of Nonaka and Freeman.

For at least these reasons, claim 1 is not suggested by the combination of Nonaka, Freeman and Ono and should be allowed. Claim 11 depends from claim 1 and should be allowed for at least the same reasons.

Claim 5 is rejected as being unpatentable over Nonaka in view of Freeman in view of Ono in view of Yamasaki (US Publication No. 2003/0071905) and further in view of Kawahara (US Patent No. 7,095,001). This rejection is traversed. Claim 5 depends from claim 1 and should be allowed for at least the same reasons described above. Applicants do not concede the correctness of this rejection.

Claims 7 and 8 are rejected as being unpatentable over Nonaka in view of Freeman in view of Ono and further in view of Nakazono (JP No. 2003-134385). This rejection is traversed. Claims 7 and 8 depend from claim 1 and should be allowed for at least the same reasons described above. Applicants do not concede the correctness of this rejection.

Claim 9 is rejected as being unpatentable over Nonaka in view of Freeman in view of Ono and further in view of Yamasaki. This rejection is traversed. Claim 9

depends from claim 1 and should be allowed for at least the same reasons described above. Applicants do not concede the correctness of this rejection.

Conclusion:

Applicants respectfully assert that the pending claims are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.



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Respectfully submitted,

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